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CIRCULATION SECTION OF THE BERKELEY MASTER PLAN

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BERKELEY CITY PLANNING COMMISSION



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REPORT ON PROPOSED AMENDMENT TO THE CIRCULATION SECTION
OF THE BERKELEY MASTER PLAN

Prepared by the Transit-Trafficways Committee
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Berkeley

October 30, 1967

REPORT ON PROPOSED AMENDMENT TO THE CIRCULATION SECTION OF THE BERKELEY MASTER PLAN

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
Goals	1
Assumptions	2
Planning Issues	3
Principles	5
CIRCULATION PLANS	6
Regional Circulation	6
Transit	7
Freeways	8
Trafficways	9
Scenic Routes	10
Other Regional Transportation	10
Local Transportation	11
Pedestrian Ways	11
Transit	12
Trafficways	13
Open Space Use of Public Rights-of-Way	15

LIST OF PLATES

	<u>Following Page</u>
Plate 1 - Bay Area Regional Circulation	6
Plate 2 - Plan for Regional Circulation	9
Plate 3 - Regional Scenic Routes	10
Plate 4 - Sections of the City	13
Plate 5 - Plan for Local Circulation	15
Plate 6 - Proposed Circulation Plan	16



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CIRCULATION SECTION
OF THE
BERKELEY MASTER PLAN

INTRODUCTION

Berkeley's character is a product of the beauty of its shoreline and hills, its attractive residential development, the presence of the University of California and its location near the urban center. This combination has produced a vital and varied community committed to its own improvement and its responsible contribution to the improvement of the total Bay Area as a place to live, work, study and enjoy.

The transportation problem of Berkeley is to retain the nature of the City while participating in the challenges and rewards of metropolitan life. Berkeley is on the paths which naturally connect outlying areas with San Francisco and Oakland. Berkeley itself is an important destination for traffic from all areas of the region. The City's closeness to the urban center, one of its important assets, must not become a misfortune which compromises other assets.

Within this regional context, and superimposed upon it, are local needs for movement and parking. The intensity of these demands threatens safety and amenity in some areas of Berkeley now and may affect other areas if no corrective measures are applied.

These problems require recognition of the wide variety of demands upon our circulation system, and the implications of these demands on the City. The contradictory nature of many demands and the responsibility to serve diverse needs requires two planning approaches. The first is planning and testing new methods for moving people and goods; the second is establishing priorities among conflicting demands.

Goals

Circulation goals represent a basis for these priorities, consistent with the Plan's overall goals. They are the final measurement for the success of the Plan and the circulation system. The circulation goals are:

1. To make lands used for traffic and transit public places which serve human, as well as mechanical needs by providing:
 - a. An attractive appearance for both users and abutting land,
 - b. Opportunities for social activities and recreation,
 - c. Safety, convenience and amenity for pedestrians.

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 2.

2. To replace the private automobile as the dominant mode of transportation with an integrated system of pedestrian, bicycle, transit and automobile facilities and by initiating planning and innovative experiments throughout Berkeley and the region.
3. To develop a circulation system which encourages:
 - a. The concentration and continued improvement of the Berkeley Central Business District,
 - b. The development of suitable concentrated shopping centers.
4. To integrate Berkeley's regional circulation with that of other cities and counties in the Bay Area to provide access to all areas within Berkeley and the region by a coordinated system of streets, highways and transit.
5. To preserve trees and other amenities adjacent to roadways by public policies to improve circulation without resorting to street widening.

Assumptions

A number of assumptions to supplement the overall Master Plan assumptions have been used to develop the Circulation Section. These reflect the conditions for which the Plan is written. Whether or not these remain reasonable through time will affect the feasibility and usefulness of the Plan to achieve the City's overall goals.

1. Technological changes will create changes in all aspects of living, including transportation patterns. Though the form of these changes is not clear at the present time, they may affect both the form and demand for circulation facilities.
2. Increasing aid from the state and federal government will be available for testing, developing and operating many types of public transit. Berkeley will take advantage of these opportunities to decrease dependence on the private automobile for a variety of needs.
3. While transit will meet certain needs, no alternative to the automobile in terms of flexibility, convenience and comfort is available in the foreseeable future. There will be a continued reliance on the private automobile for personal travel, especially recreation-oriented trips.
4. With encouragement of transit use, the car ownership ratio in Berkeley will remain at about one car for each two residents.
5. Leisure, affluence and the availability of a wide variety of activities will increase the number of local and regional trips, but these will be spread more evenly through the day and week; this will increase the usage of all circulation facilities.

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 3.

Planning Issues

In planning circulation for Berkeley, major policy decisions revolve around the issues of:

- . Land Use, Population and Circulation
- . Alternative Modes of Transportation
- . Regional Traffic
- . The Concentration or Dispersion of Traffic

Land Use, Population and Circulation

The livability of Berkeley depends upon a balance and coordination of land use activities, population and circulation facilities. Different land uses create different transportation needs; the availability, or unavailability, of transportation influences the uses to which land will be put. There is a continuing process of adjustment going on. Because the planned circulation for the City will substantially affect population, an estimate is needed on the population that will best achieve the goals of Berkeley. A population of 120,000 to 130,000 with suitable land use and zoning controls is assumed to be appropriate for maintaining the residential character of the City and meeting the growing public demand for open space, both public and private.

Alternate Modes of Transportation

Berkeley developed almost entirely before the extensive ownership and use of automobiles following World War II. Steps have been taken (through street widening, one-way streets, etc.) to cope with a demand the streets were not designed to handle. The limits of such solutions are apparent in the growing congestion on major streets, the use of neighborhood streets for cross-town traffic and parking problems around the Central Business District and the University.

To accommodate any increased traffic, street improvements could alter the traditional residential character of large areas of Berkeley. Additional streets would be needed for major traffic; freeways and widening would take land and structures along present routes. The most reasonable long-range alternative is to reduce dependence on private automobiles by the provision of public transportation which can compete with the automobile in economy, convenience and comfort. This will require imaginative technological innovation, political initiative, public education and public acceptance to accomplish. This approach is used in the Plan because in the long run it can contribute most to attaining the City's overall goals.

Regional Traffic

Regional traffic is that which originates, terminates or passes through Berkeley going to or from locations outside the immediate vicinity of the City. Though Berkeley's population and employment are growing by only

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 4.

modest amounts, the regional demands on its circulation facilities are increasing more rapidly as new metropolitan growth occurs north, south and east of Berkeley. Freedom of movement is vital to the Bay Area so the question is how to provide for this movement. Three alternatives are available to Berkeley.

The first alternative is to make no provision in the hope that regional traffic will avoid Berkeley altogether. This ignores, however, (1) the large proportion of regional traffic which originates, stops or terminates here, and (2) the location of Berkeley near the center of the region where it is difficult to by-pass. This alternative could lead to increased congestion, more spill-over into residential areas, and tendencies toward deterioration.

The second alternative is to rely on separate facilities (such as rapid transit and freeways) for regional needs. Where this can be done with minimal land acquisition and disruption (as the transit subway) it is a good solution. The possible adverse effects on the livability of the City of additional freeway, however, are inconsistent with the goals of the City.

The third alternative is to handle regional traffic (which is not carried by BART or the present freeway network) on surface transit and Berkeley's major streets. With development of the Grove-Shafter Freeway between Contra Costa County and the Bay Bridge and the Bay Area Rapid Transit, these can be planned to carry the remaining regional traffic. As part of this approach, steps would be taken (such as installing cul-de-sacs and diverters) to keep fast moving traffic off local neighborhood streets. While this may change the character of some major streets, the safety and amenity of the entire community would be protected. Such changes can be organized so that long-term benefits outweigh initial problems. This is the alternative upon which the Circulation Plan is based.

The Concentration or Dispersion of Traffic

Vehicular traffic is handled through a system of streets--neighborhood streets, collector streets, major streets and freeways. To plan circulation is in part to designate which parts of the system will carry the major traffic flows and which will assume other functions. Berkeley is reluctant to add more freeways; it is equally committed to minimizing traffic on neighborhood streets. The question is whether the remaining traffic should be handled on a large number of collector streets (dispersing traffic) or a small number of major streets (concentrating traffic).

The concentration of traffic requires increased use of transit and extensive improvements to designated major streets. At present, some major routes are congested and a number of secondary streets are handling the excess. To concentrate traffic would require controls over the use of neighborhood streets (such as diverters), increased transit service, measures to increase traffic flow on major streets, and extensive public investments.

Dispersion would continue to spread traffic over even more streets than at

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 5.

present. This would prevent increased traffic on those major routes passing through residential areas and would avoid extensive costs for street improvements and widening. Dispersion could also result in the disruption of presently quiet residential areas with more traffic.

To incorporate the benefits of each approach, dispersion is planned in commercial and very high density residential areas where traffic volumes serving immediate needs are always significant. In lower density residential areas, emphasis is placed on concentrating traffic on a minimum number of streets. In conjunction with this approach, expanded and improved local transit will be developed to decrease automobile demands for roadway and parking.

Principles

To translate goals into policies, principles provide guidelines for the day-to-day policy decisions which implement the Master Plan through time:

1. Long range circulation planning should:
 - a. remain flexible and sensitive to changing social, economic and technological conditions,
 - b. stimulate imaginative development of new solutions and techniques,
 - c. include active participation at all stages from all segments of the community,
 - d. give priority to planning for non-automobile circulation.
2. Circulation decisions should:
 - a. commit the City only to those long range needs which are clearly apparent,
 - b. be consistent with and support other policies of the Master Plan.
3. Major routes should be located around rather than through residential neighborhoods, commercial centers, industrial areas, and the University of California. Where through routes must cross such areas, routing and design should insure minimum disruption of the area.
4. Street widening should be avoided wherever possible. It should be used only when (a) all other feasible means (such as parking restrictions, turning controls, etc.) have proved inadequate, (b) congestion is a clear threat to safety and amenity, and (c) no alternative route or means of transportation is available.
5. Berkeley should use opportunities and assistance that become available to decrease dependence upon the private automobile for circulation.
6. When regional traffic cannot be handled on separate facilities (such as rapid transit and freeways), it should be accommodated on and restricted to a limited number of City streets.

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 6.

7. In utilizing state and federal aids for circulation, Berkeley should participate only in those projects which are consistent with the goals and principles of the Master Plan.
8. Berkeley, in cooperation with other jurisdictions and the League of California Cities, should press for:
 - a. additional assistance programs with emphasis on non-automobile uses and new experimental approaches to circulation,
 - b. greater flexibility for street development consistent with the individual character of local communities,
 - c. state constitutional and statutory provisions which are responsive to changing conditions and local needs.
9. The Planning Commission, and its designated committees, should initiate circulation proposals and review those initiated elsewhere.

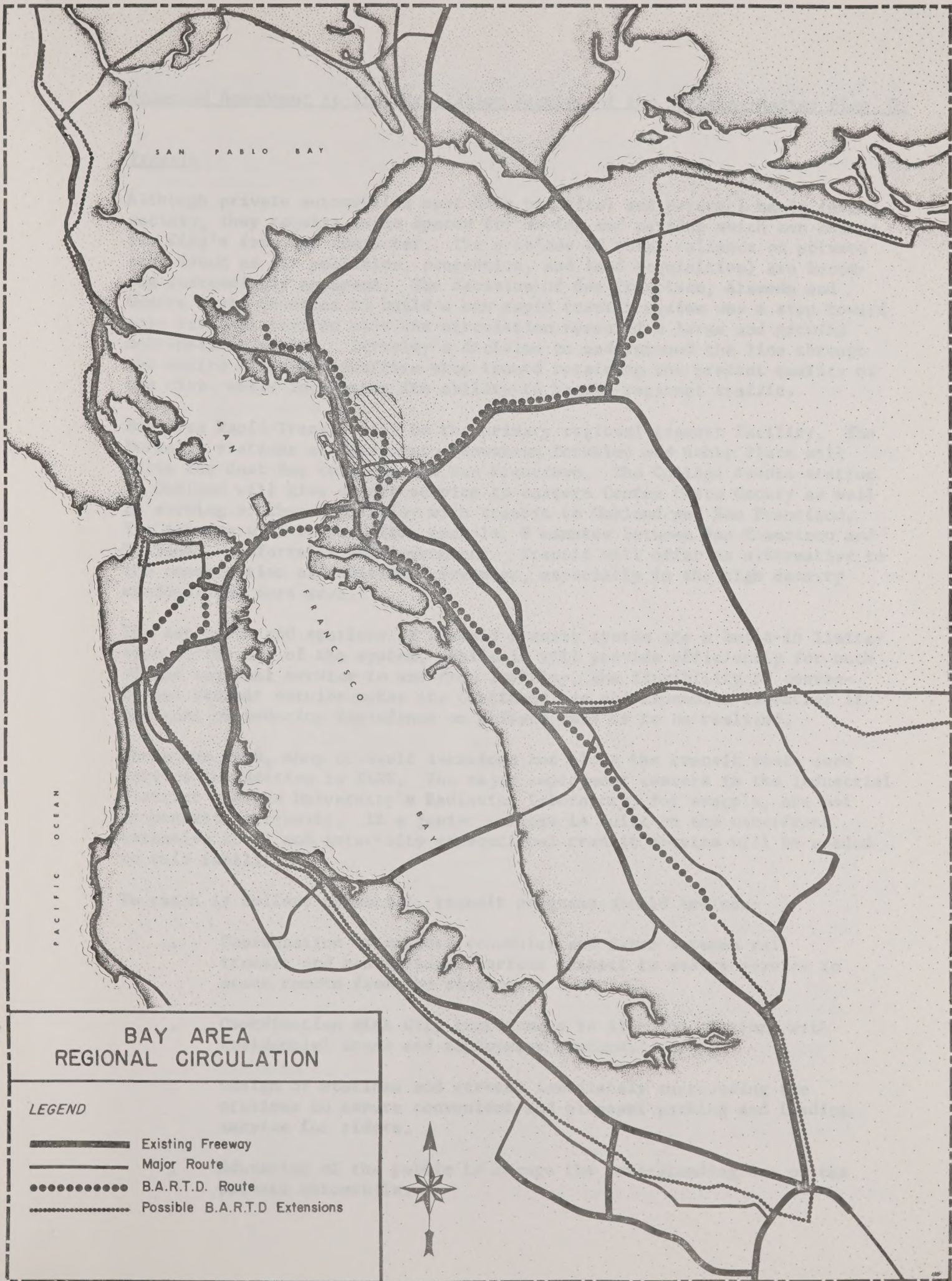
CIRCULATION PLANS

The Circulation Plan describes in general terms a long run system for (a) meeting the community's transportation needs and (b) furthering the overall goals of the City. The Plan would be implemented through shorter range development plans which would coordinate research and planning, capital improvements, standards and special projects. The Plan proposals represent long range solutions; achievement in the short run may not be feasible. As needs and resources emerge, however, the Plan can be realized.

Regional Circulation

Regional circulation is that which originates, terminates or passes through Berkeley going to or from locations outside the immediate vicinity of the City. Trips between Berkeley and Albany or Tilden Park are not considered regional, while trips between Berkeley and Oakland or San Francisco are considered regional. With the growth of the region far exceeding the growth of Berkeley, regional circulation can be expected to increase at a faster rate than local circulation.

As indicated on the map of regional circulation (see map following page 6), Berkeley is not only physically near the urban core, but contains major regional north-south routes to and from the northern Bay Area, Marin County, Sacramento, Oakland, Alameda County, San Jose and San Francisco. To handle this demand, a coordinated system of fixed route transit, surface transit, freeways and trafficways is planned. This system is based on a conservative estimate of future needs, technology and resources to avoid the expenditure of substantial public funds for facilities which in the long run may prove unnecessary or obsolete.



Transit

Although private automobiles meet both practical and personal needs in our society, they require large spaces for moving and parking which can change the City's form and character. The problems of total reliance on private cars (such as air pollution, congestion, and land acquisition) are becoming increasingly apparent. The decision of San Francisco, Alameda and Contra Costa Counties to build a new rapid transit system was a step toward more rational ways to meet the circulation needs of a large and growing metropolitan region. Berkeley's decision to underground the line through the entire City is a positive step toward retaining the present quality of the City, while increasing its ability to handle regional traffic.

Bay Area Rapid Transit will be the primary regional transit facility. The Berkeley stations at Sacramento, downtown Berkeley and Ashby Place will serve the East Bay corridor and San Francisco. The College Avenue station in Oakland will give direct service to eastern Contra Costa County as well as serving southeast Berkeley with transit to Oakland and San Francisco. The service will be fast (for example, 8 minutes between San Francisco and Oakland), comfortable and convenient. Transit will offer an alternative to the construction of additional freeways, especially in the high density metropolitan core area.

The set route and stations of a rapid transit system are a built-in limitation on the use of the system. While it will provide efficiently for much of the regional service to and from Berkeley, the flexibility of conventional transit service makes its continued use and expansion essential if the goal of reducing dependence on private cars is to be realized.

Those who work, shop or visit locations not along the transit route need service in addition to BART. The major employment centers in the industrial district and the University's Radiation Laboratory, for example, are not convenient to transit. If a junior college is built on the waterfront, extensive local and inter-city conventional transit service will be needed to this facility.

To reach its fullest potential, transit programs should include:

- . Coordination of routes, schedules and fares between rail transit and conventional surface transit to assure service to areas remote from the stations.
- . Coordination with City trafficways to link the stations with residential areas and employment centers.
- . Design of stations and streets immediately surrounding the stations to assure convenient and pleasant parking and loading service for riders.
- . Education of the public to change the long-standing use of the private automobile.

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 8.

These policies will require joint efforts by Berkeley, BART, other East Bay communities, A.C. Transit, Greyhound and University bus service to develop a total system that is pleasant, economical and convenient to use.

Freeways

No new freeways are proposed in this plan although an east-west freeway through South Berkeley and a second shoreline freeway are in the State freeway plans. Berkeley, however, is assuming that the Grove-Shafter Freeway and rapid transit will reduce the pressures (especially during the peak hours) sufficiently to make additional freeway unnecessary. The plan will be re-evaluated when more definitive information is available from the Bay Area Transportation Study.

A second shoreline freeway is shown on the Master Plan "under consideration." With the Eastshore Freeway at or near capacity, a second shoreline freeway may be needed to serve economic growth which is creating additional truck traffic and jobs along the East Bay and residential growth at the northern and southern ends of the corridor. To prepare for such a contingency, preliminary guidelines for such a facility are given in the Waterfront Section of the Master Plan. There will be continued coordination of waterfront planning and circulation planning.

While priority is given to eliminating the need for any additional freeways, Berkeley must be prepared to face the highly complex issues of freeway development if future demands make a new freeway necessary. A high quality of design and consideration of local needs and interests can be obtained only if well thought out policies are present to guide the many decisions involved in establishing a freeway route and design. Studies would be needed to determine optimum routes, interchanges and design that would be most advantageous.

Before approval of any new freeway for construction in Berkeley, the Master Plan should be amended to indicate the route of the new freeway, its general design and the necessary adjustments of the remainder of the Plan to the impact of the freeway. Consideration of such an amendment would include the following steps as a basis for determination by the Planning Commission, the residents and the City Council of the need for and desirability of a new freeway:

- An active program of participation by elected officials, City Commissions, staff departments, interest groups and residents to establish understanding of the problems and proposals and to incorporate community values into recommendations regarding freeways.
- A traffic study (drawing upon data developed by BATS, the State Highway Department and other sources, as well as local studies) to determine the significance to Berkeley of:

Existing regional and local circulation by transit and automobile;

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 9.

Present and projected regional distribution of residential, shopping, employment, recreational and institutional centers; and

Preliminary policy alternative indicating the impact of:

No new freeway and more intensive provision of non-automobile transportation;
Alternative freeway routes and interchanges;
Alternative freeway designs;
Traffic to and from the University of California in the case of an east-west freeway.

A study of opportunities for a multiple use freeway which would incorporate other uses (such as commercial, residential or industrial) in areas above, below or along the freeway right-of-way.

Trafficways

As an alternative to additional freeways, a portion of regional traffic will continue to use selected Berkeley streets. To satisfy regional needs while protecting the safety, convenience and amenity of Berkeley, adjustments such as parking and turning controls would be made to some routes to increase their ability to handle regional traffic and steps taken to prevent regional traffic from "spilling over" into secondary and neighborhood streets.

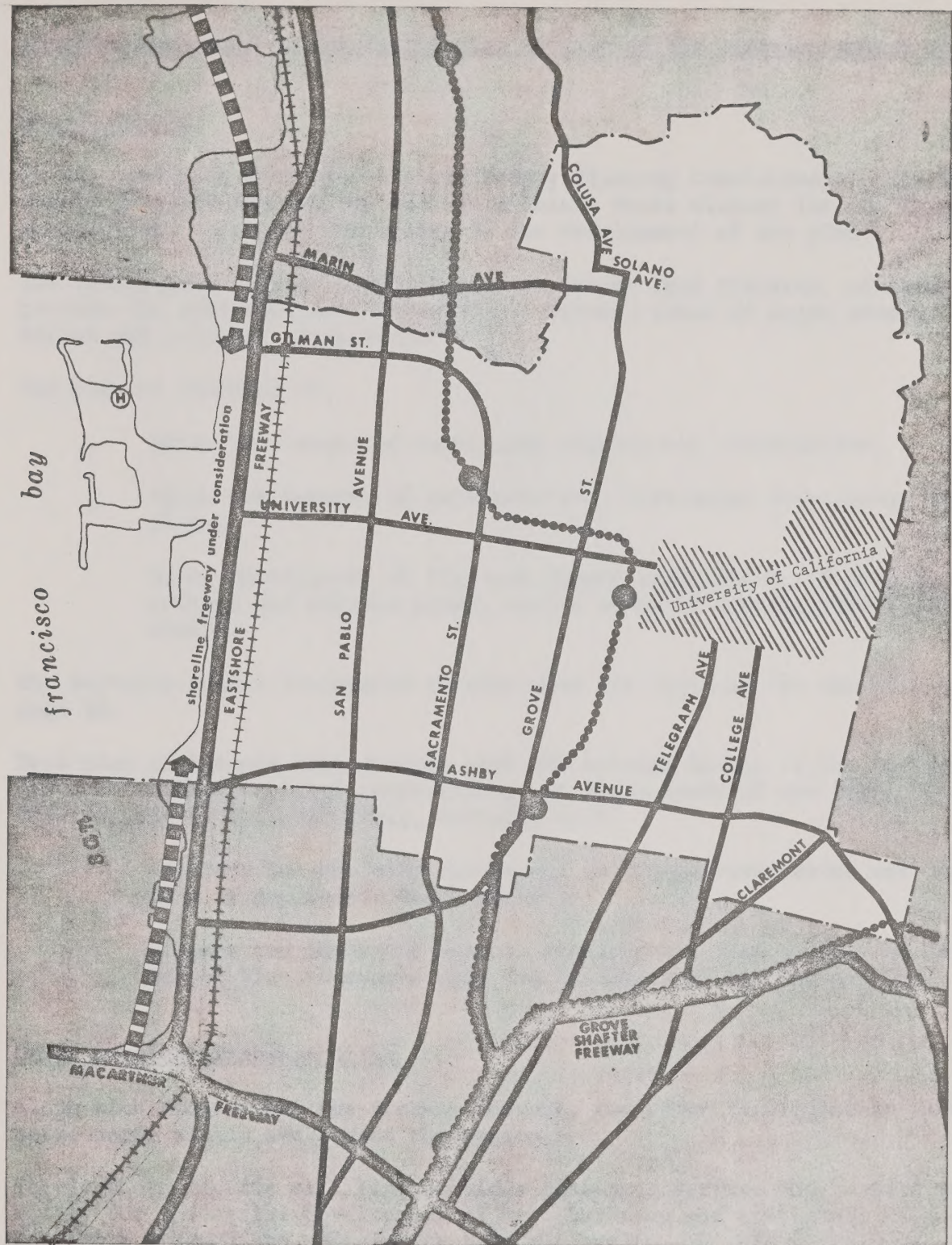
The criteria for selecting streets to handle regional traffic are:

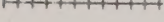
- . Access to significant residential, commercial or industrial areas of the East Bay and/or direct access to the regional freeway network.
- . Access to major residential, commercial, institutional or industrial areas within Berkeley.
- . Ability to serve local as well as regional needs.

As indicated on the plan for regional circulation (see map following Page 9)

- . San Pablo Avenue, Sacramento Street and Grove Street will handle regional north-south traffic.
- . Ashby Avenue, Gilman Street and University Avenue will handle regional east-west traffic.
- . College Avenue and Telegraph Avenue will handle regional traffic to and from the south campus area.

Until long range solutions can be implemented, other routes such as the Derby-Warring-Belrose connection to Ashby Avenue, will also continue to handle regional traffic.



-  Freeway
-  Regional Thoroughfare
-  Rapid Transit Route and Station
-  Railroad
-  Heliport

REGIONAL CIRCULATION PLAN

Scenic Routes

In the spring of 1966, the Alameda County Planning Commission and the Alameda County Board of Supervisors adopted a Scenic Route Element for the County Master Plan. Berkeley was active in the development of the plan.

The County plan defines scenic routes as "those that traverse, or those that provide the most efficient routes to or between areas of major scenic, recreational and cultural attractions."

The plan is intended to:

- . Serve as a means of continuing City-County coordination;
- . Guide development of more detailed, individual City scenic route plans;
- . Guide development of City and County legislation and programs that protect and enhance scenic values along or visible from scenic routes.

The Berkeley routes designated in this plan are shown on the map following page 10.

This plan represents both concern with the natural beauty of the environment and constructive regional cooperation. In its support of the Scenic Route Plan adopted by Alameda County, Berkeley will:

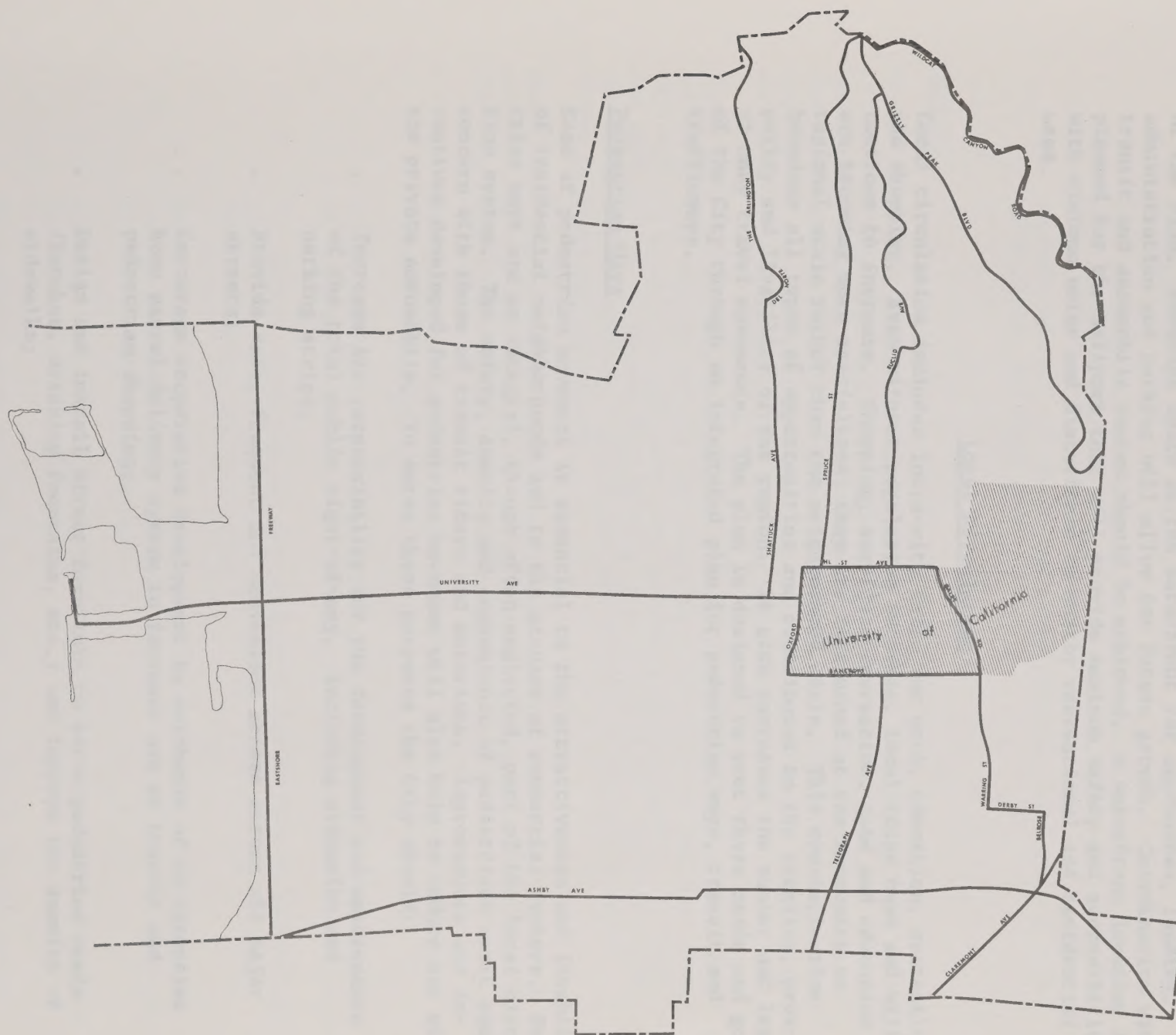
- . Continue to work with the County in the implementation and refinement of the Scenic Route Plan;
- . Prepare and implement a local scenic route plan as part of the Master Plan to expand upon the framework of the County Plan.

Other Regional Transportation

Along with transit and the freeway network, two other facilities in Berkeley serve needs within and beyond the region.

The Southern Pacific rail line provides passenger service but is used primarily for industrial development of West Berkeley and continues, with the Eastshore Freeway, to sustain its economic health. A second rail line, the Santa Fe running north and south through Berkeley between San Pablo Avenue and Sacramento Street, is obsolete and should be abandoned.

The heliport on the Berkeley waterfront provides regional service to Marin County, Contra Costa County, San Jose, downtown Oakland and downtown San Francisco. Its major function, at present, is to provide direct connections to San Francisco and Oakland International Airports which serve the nation and the world. SFO Helicopter Airlines has already expanded from 10 to 26 passenger vehicles and plans in the future to use 50 passenger helicopters.



REGIONAL SCENIC ROUTES

AS ADOPTED - AUGUST, '68

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 11.

The use of helicopters and perhaps hovercraft will expand through the period of the Plan. Adequate space at the waterfront for approaches, landing, administration and parking will allow for future growth. Coordination with transit and automobile routes should be achieved. A waterfront location is planned for the heliport that will provide maximum safety and accessibility with minimum noise and disturbance to nearby recreational and residential uses.

Local Circulation

Local circulation includes intra-city trips for work, education, recreation and shopping. Even without population increase, local trips have and will continue to increase. Shopping, services, recreation, jobs and education are becoming more specialized; they are determined at the community or regional scale rather than the neighborhood scale. This specialization broadens all types of opportunities and contributes to the vitality, prosperity and livability of the region. It also increases the number and length of many travel movements. The plan is designed to meet these needs and goals of the City through an integrated plan for pedestrian ways, transit and trafficways.

Pedestrian Ways

Ease of pedestrian movement is essential to the attractiveness and livability of residential neighborhoods and to the access of commercial centers. Pedestrian ways are an integral, though often neglected, part of the local circulation system. The safety, amenity and convenience of pedestrians merit equal concern with those of transit riders and motorists. Improvements and incentives developed for pedestrian movement will also help to reduce use of the private automobile. To serve these purposes the City should:

- Increase its responsibility for the development and maintenance of the total public right-of-way, including sidewalks and parking strips;
- Provide safe, frequent and convenient access across all major streets;
- Encourage cooperative development by merchants of an extensive home parcel delivery system to increase use of transit and pedestrian shopping;
- Design and install street furniture to serve pedestrian needs (benches, drinking fountains, etc.) and improve the amenity of sidewalks;
- Develop special programs around elementary schools and parks to insure ease and safety for children using these facilities;
- Establish a system of scenic walks to link parks, residential areas and shopping areas;

- . Provide adequate sidewalk widths (especially at intersections) for easy movement of both individual pedestrians and those with strollers or in wheel chairs;
- . Make walkways and sidewalks an integral part of all neighborhoods with standards adapted to specific locations and needs;
- . Consider the use of pedestrian underpasses or overpasses at wide or dangerous intersections.

Transit

If Berkeley is to expand its local economic, social, educational and recreational opportunities, transportation which requires less space for movement and parking than the private automobile must be developed. But this transportation must be comparable in cost, comfort and convenience to the private automobile. It must also be compatible with the area served; large busses, for example, are not suitable for winding hill roads.

Since 1960, the Alameda-Contra Costa Transit District has operated local and inter-city transit for the East Bay with connections to San Francisco. Improvements to service have been made and patronage increased. Berkeley can work with or go beyond this service to meet its needs. Of importance are: routing, scheduling, maintenance and comfort of vehicles to make travel pleasant and convenient.

These needs can be met if Berkeley encourages and supports the development and testing of a wide variety of new innovations in non-automobile travel. The long range plan envisions programs designed so that:

- . Local transit would be free with operating costs subsidized with Federal, state and local funds;
- . A wide variety of coordinated services would be available, such as traditional busses, mini-busses, jitneys, moving sidewalks, etc.;
- . The transit system would have a maximum flexibility to accommodate changes in demand which occur at various times of day, during various seasons and over time.
- . There would be increased separation of pedestrian, automobile and transit services while maintaining ease of movement from one form of transportation to another;
- . Amenity, convenience and comfort for transit users and surrounding land uses would be achieved by:

using mini-busses or other small scale vehicles on collector and minor streets in low density residential areas;

providing enough facilities for all users;

Proposed Amendment to the Circulation Section of the Berkeley Master Plan 13.

developing distinctive transit services (such as the San Francisco cable cars) that are unique to Berkeley;

scheduling and routing service to minimize waiting and transfers.

Trafficways

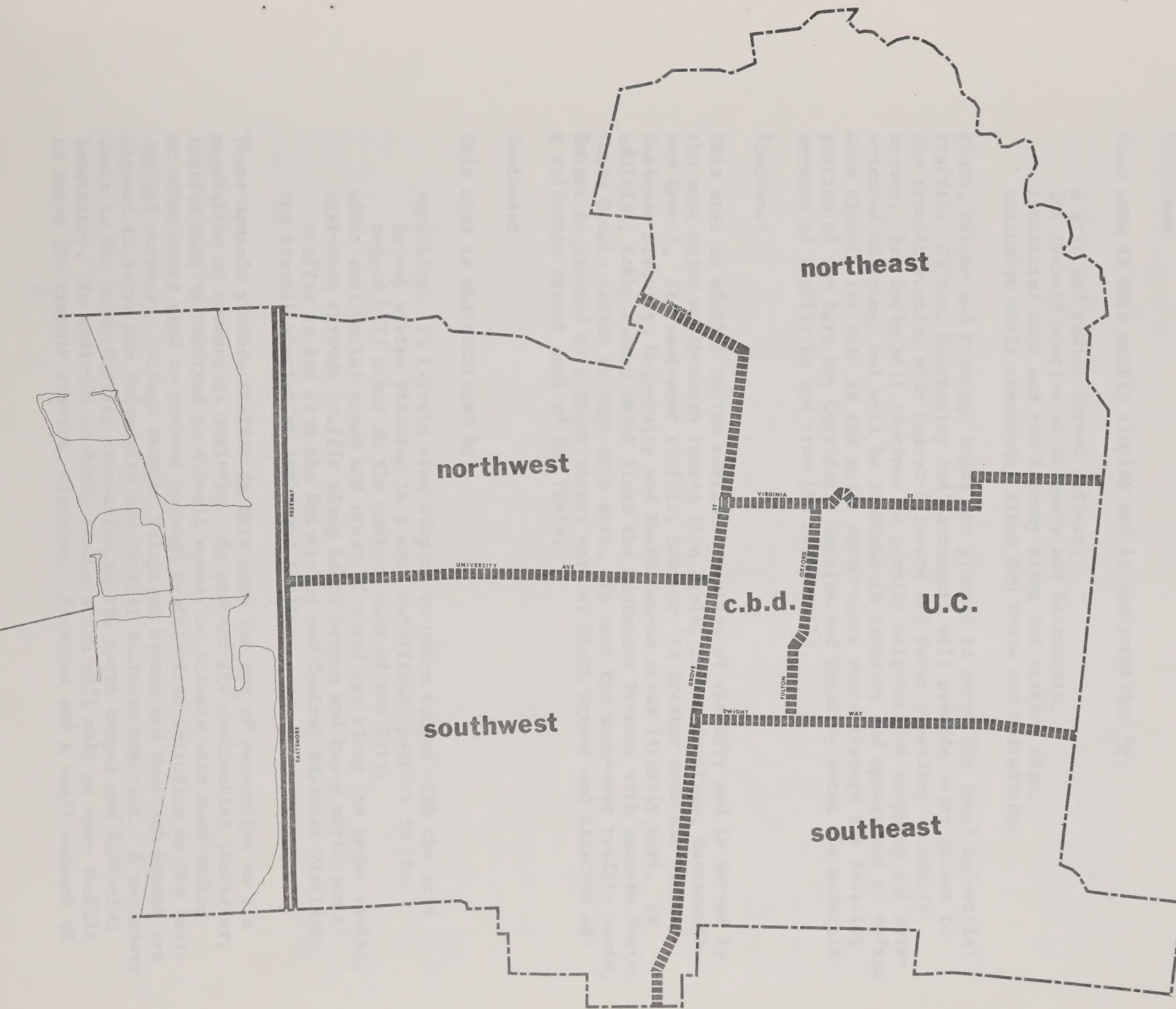
Streets serve a variety of needs for the movement of pedestrians, bicycles, motorscooters, cars and trucks; property access; public open space; parking; and transit. To handle these needs, the plan designates major and collector streets with the remainder being local streets. Major streets will serve regional traffic and the largest local traffic generators--the University, Central Business District, and transit stations. Collector streets will serve lesser traffic generators, supplement major streets, and provide access to residential neighborhoods. To guide specific planning toward this long range goal, these policies are established:

- . On major streets priority should be given to the movement of traffic over needs for parking and turning. Limitations on parking and turning should be used in preference to street widening in facilitating traffic flows on major and collector streets.
- . On collector streets, the needs of through traffic, turning and parking should be balanced to provide for each. In particular instances and at certain times (such as rush hour), one function may take precedence over others, however.
- . On local streets, ease of access, pedestrian movement and parking should have priority over traffic movement.
- . One-way pairs are appropriate for use in high intensity areas such as the Central Business District and the high density residential area south of the University of California Campus. They are not appropriate, however, for lower density residential areas where they spread high speed traffic and large volumes of traffic over larger areas.
- . Flexibility should be encouraged in standards for all types of streets to allow the most suitable street development in terms of function, abutting land uses and topography.

Planning local trafficways calls for meshing a variety of needs and conditions into an integrated system. Since areas of the City have individual characteristics, the City is divided into six areas (see map following page 13), for more specific analysis.

Northeast

This area is predominantly low density residential with rugged terrain. The streets generally follow this terrain and are often narrow with many curves. The volumes of traffic are not large. A number of collector streets are designated which connect to major streets serving the University, Central



SECTIONS OF THE CITY

Business District, Albany and the Eastshore Freeway.

Northwest

This area is more gently sloping and is characterized by:

a grid and radial street pattern,
the transit station at Delaware and Sacramento,
industrial uses and the freeway along its western edge,
extensive strip commercial along San Pablo and University.

Sixth, Gilman and Frontage Roads are planned to serve the local industrial traffic. Gilman, University and Sacramento will provide major access to the transit station with Hearst-Delaware and Cedar providing secondary access. San Pablo will continue to provide neighborhood shopping and auto-oriented shopping, but will be improved in capacity and appearance to define more clearly its role as the major north-south route through the Berkeley portion of the East Bay Corridor. Hopkins and Monterey serve the moderate amounts of traffic to and from the north hills.

Southwest

This area is similar to the northwest portion of the City and is served by the same major north-south routes (San Pablo, Sixth, Frontage, Sacramento, and Grove). Its east-west traffic, however, is greater with the Central Business District, University and South Campus areas directly east. In addition, Ashby Avenue which links the Eastshore Freeway with eastern Contra Costa County passes through this area. To meet the east-west traffic needs, Dwight is planned as a major street east of Sixth Street and Alcatraz as a collector street east of San Pablo.

Southeast

This area is characterized by:

variations in terrain from sloping to quite rugged with the grid street system yielding to a more curvilinear pattern in the rugged hill areas at the eastern edge of the City, older residential areas and areas of mixed use along the major routes, east-west through traffic along Ashby Avenue and heavy north-south traffic to and from the University and Central Business District, the transit station at Ashby and Adeline.

These demands produce traffic in this area far out of proportion to its population or commercial activity. To protect its residential character, traffic must be confined to a small number of streets with dead-ending or other means used to prevent through traffic from intruding on the residential streets. College Avenue, Telegraph Avenue and Shattuck Avenue are planned to serve the University and Central Business District. A secondary route is the Derby-Warring connection to the north campus and Radiation Laboratory. In addition to Ashby Avenue which will take on more traffic to serve the transit station, Claremont, Alcatraz and a small segment of

Woolsey will serve to supplement access to the transit station.

Central Business District

This area is characterized by a concentration of cars and pedestrians in a relatively small area. With the University on the east and Berkeley High School on the west, normal downtown problems are intensified. The transit station will increase pedestrian activity and increase the use of downtown for retail and office uses.

To handle these multiple demands major routes are planned around the central core with major streets and collector streets serving the interior. Grove Street, University Avenue, Fulton-Oxford, and the Dwight-Haste pair are planned as major streets around the periphery. Shattuck is not planned to serve cross-town traffic but to provide access to and from the Central Business District and Berkeley station; study will be given to eventual limiting or eliminating this direct route through the Central Business District. To supplement the major routes, the Bancroft-Durant pair, Milvia and Hearst are planned as collector streets. While it is planned that all streets in the Central Business District will handle substantial number of cars and pedestrians, major traffic flows are planned for those routes which provide direct access to other parts of the City and region.

University Campus and South Campus Area

This area is characterized by:

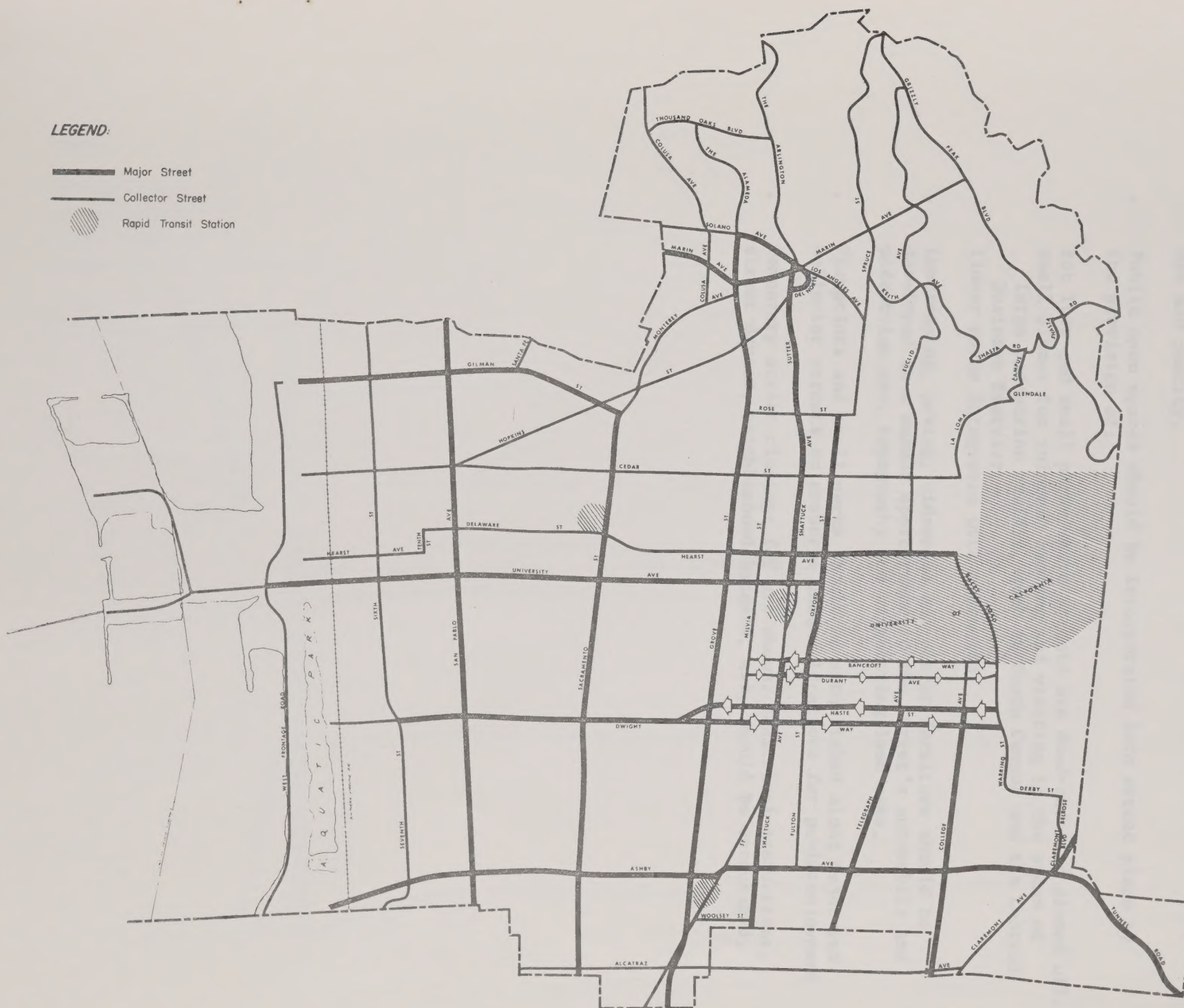
- high density residential housing in dormitories, apartments, rooming houses and group living quarters,
- a large commercial center along Telegraph and Bancroft,
- large numbers of pedestrians and automobiles coming to and from the University.

This combination creates intense activity in the area. The plan calls for providing major routes along the periphery with Hearst Avenue, College Avenue, the Dwight-Haste pair and Fulton. Secondary routes to serve the interior are the Bancroft-Durant pair and Gayley Road. This will be sufficient if plans are also undertaken to reduce the auto traffic in the area by increased transit use (local and regional) by students, staff and shoppers. Within the area, pedestrian movements will be given equal (and in some cases, preferential) status on the public rights-of-way. (see map for local circulations following page 15).

Open Space Use of Public Rights-of-way

Within Berkeley east of the freeway are 245 acres of public parks and playgrounds. In the same area are 1,796 acres of public right-of-way for streets. Some of this space could be developed to supplement the traditional open spaces of the City. To accomplish this:

 Major Street
 Collector Street
 Rapid Transit Station



PLAN FOR LOCAL CIRCULATION

- . Maintenance of public right-of-way must set a high standard for the City and region. Cleanliness and safety are basic to their use and amenity.
- . Public open spaces should be incorporated into street plans by the provision of:
 - tot lots and small parks where streets are dead-ended or closed off,
 - small plazas for informal resting and visiting in the areas of large pedestrian traffic, such as South Campus and the Central Business District,
 - linear parks integrated with sidewalks.
- . Landscaping, paving, sidewalks and street furniture should be developed in a manner appropriate to the street's automobile and pedestrian use, topography and neighboring land uses.
- . Viewpoints and small parks should be established along major and collector streets to preserve unique locations for public enjoyment.
- . Temporary street closings for art shows, theatrical productions, street dances, neighborhood bazaars, etc, should be encouraged.

LEGEND:

-  Freeway
-  Major Street
-  Collector Street
-  Rapid Transit Route and Station



PROPOSED CIRCULATION PLAN

CIRCULATION SECTION AMENDMENT OF THE BERKELEY MASTER PLAN

TABLE OF CONTENTS

As Adopted by the Berkeley City Planning Commission

May 1, 1968

As Approved for Adoption by the City Council

August 13, 1968

CIRCULATION SECTION OF THE BERKELEY MASTER PLAN

TABLE OF CONTENTS

	<u>Page</u>
Circulation Objectives	1
Assumptions and Principles	1
Elements of the System	2
Transit	3
Freeways	5
Major Streets and Collector Streets	5
Scenic Routes	7
Neighborhood Streets and Pedestrianways	7
Railroads	8
Heliport	9

PLATE

	<u>Following Page</u>
Circulation Plan	9

CIRCULATION SECTION
OF THE BERKELEY MASTER PLAN *

Circulation Objectives

Planning for circulation in Berkeley is designed to retain the character and amenity of the City while making reasonable provision for and encouraging new methods for moving people and goods. Consistent with the overall objectives of the Master Plan, circulation objectives are:

1. To maintain, design and develop circulation facilities--including transit--as public places so as to (a) provide an attractive appearance for both users and abutting land; (b) provide opportunities for dual use of space for social activities and recreation; (c) insure safety, convenience and amenity for pedestrians; (d) preserve and enhance the natural beauty and existing character of the areas involved.
2. To reduce the dependence on the private automobile as the dominant mode of transportation by developing a fully integrated system of pedestrian, bicycle, local transit, regional transit, and automobile facilities and by initiating innovative circulation experiments throughout Berkeley and the region.
3. To encourage:
 - (a) The continued improvement and intensification of the Berkeley Central Business District, and
 - (b) The development of suitable concentrated shopping centers.
4. To integrate Berkeley's regional circulation elements with those of other cities and counties in the Bay Area to provide access to all areas within Berkeley and the region by a coordinated system of trafficways and transit.
5. To preserve trees and other amenities adjacent to existing roadways through use of all possible techniques to improve circulation without resorting to street widening.

Assumptions and Principles

Circulation principles and planning have been based on a number of specific assumptions supplementing those set forth earlier in the Master Plan. The prime assumption is that appropriate means can be found to limit the population of Berkeley to maintain that balance of intensity of land use and circulation upon which the liveability of the City depends.

The most reasonable method of attaining the established objective of reducing the dependence on the private automobile is through provision of public transportation which can compete with the automobile in economy, convenience and comfort. It is assumed that the City of Berkeley can mobilize the technological innovation, political initiative, user education and public acceptance

* This section is referenced to and based on "Report on Proposed Amendment to the Circulation Section of the Berkeley Master Plan" prepared by the Transit-Trafficways Committee, October 30, 1967.

required to encourage such an improved transit system. With such an improvement it is assumed that car ownership ratio can be maintained at a level of about one car for each two residents and that the use per vehicle will not undergo a major increase.

While transit will meet certain needs, no alternative to the automobile in terms of flexibility, convenience and comfort is available in the foreseeable future. There will be a continued reliance on the private automobile for personal travel, especially recreation-oriented trips, but these will be spread more evenly through the day and week.

Principles to guide circulation planning are established as follows:

1. Berkeley will use every available opportunity to decrease dependence upon the private automobile for circulation and encourage innovative experiments toward this end.
2. Major routes are to be located around rather than through residential neighborhoods, commercial centers, industrial areas, and the University of California. Where through routes must cross such areas, routing and design should minimize disruption of the area.

In commercial and high density residential areas dispersion to several streets may be necessary where traffic volumes are significant. In lower density residential areas emphasis is on concentrating traffic on a minimum number of streets.

3. Street widenings are to be avoided wherever possible, and should be used only when (a) all other feasible means--such as parking restrictions, turning controls, traffic devices, etc.--have proved inadequate, (b) congestion is a clear threat to safety and amenity, and (c) no alternative route or means of transportation is available.
4. When regional traffic cannot be handled on separate facilities (such as rapid transit and freeways), it should be accommodated on and restricted to a limited number of City streets.
5. Circulation improvements are to be designed to preserve existing planting to the fullest extent possible and tree planting and landscaping provided for wherever appropriate.

Elements of the System

The circulation system of Berkeley includes, but is not limited to, all the elements shown on the Circulation Plan; the system includes:

- Transit including (a) a local transit system to provide for movement within Berkeley and (b) a regional mass rapid transit service to carry people to and from San Francisco, Oakland, Richmond and other key points in the Bay Area.

- Freeways which provide a high volume facility for through traffic, with limited access and grade-separated intersections (but requiring large amounts of right-of-way). (Note that no additional freeways are proposed in this Circulation Section of the Berkeley Master Plan).
- Major Streets serving large volumes of traffic and interconnecting major districts of the City and adjoining cities.
- Collector Streets serving sub-districts and neighborhoods of the City by providing access to Major Streets.
- Scenic Routes consist of streets (Major or Collector) designated for special attention in the protection and enhancement of scenic values.
- Other Regional Transportation include such elements as Railroads and Heliports to provide connections with or serve the needs of the region and beyond the region.

Transit

The problems of total reliance on private cars--including air pollution, noise, excessive land acquisition requirements, and unremitting congestion--are increasingly apparent. The decision of San Francisco, Alameda and Contra Costa Counties to build a new rapid transit system was a step toward more rational ways to meet the circulation needs of a large and growing metropolitan region. Berkeley's decision to underground the line through the City is a positive step toward retaining the present quality of the City, while increasing its ability to handle regional traffic. The Bay Area Rapid Transit System will be the primary regional transit facility.

Three regional stations are located in Berkeley: (1) the "Ashby Station" located at Adeline Street and Ashby Avenue serving South Berkeley, (2) the "Berkeley Station" located at Shattuck Avenue and Center Street serving the heart of the Central Business District and the University of California Campus, and (3) the "North Berkeley Station" located at Sacramento Street and Delaware Street serving North Berkeley. The "College Avenue Station" located at Shafter Avenue and College Avenue in Oakland will serve portions of southeast Berkeley and the University of California Campus. Rapid transit will provide fast--downtown Berkeley to downtown San Francisco will require nine minutes--comfortable and convenient service. It provides a significant reduction in the need for additional freeway construction especially in the high density metropolitan core. The Central Business District location will, and is encouraged to, stimulate development of office buildings, of commercial establishments, and of apartment buildings in downtown Berkeley because of the convenience of service to all parts of the Bay Area.

Transit planning must include local transit as well as regional rapid transit. In addition to the need for transit routes within Berkeley and to adjacent communities there is need for feeder service to BART for those who work, live, shop or visit locations not adjacent to BART stations.

Since 1960, the Alameda-Contra Costa Transit District (A.C.) has operated

local and inter-city transit for the East Bay with connections to San Francisco. Improvements to service have been made and patronage increased. Berkeley can work with or go beyond this service to meet its needs. Of importance are: routing, scheduling, maintenance, and comfort of vehicles to make travel pleasant and convenient.

Continuing studies toward an improved and more convenient local transit system should include:

- . Coordination of routes, schedules and fares between rail transit and conventional surface transit to assure service to areas remote from the stations.
- . Scheduling and routing service and providing adequate facilities to minimize waiting and transfers.
- . Design of stations and streets immediately surrounding the stations to assure convenient and pleasant parking and loading service for riders.
- . Programs to educate and encourage the public to make use of the improved local and regional transit.
- . Investigation of a number of possible innovations to provide increased amenity, convenience and comfort including: (a) operating local transit on a free basis to encourage patronage; (b) using mini-busses or other small vehicles in low density or special service areas; (c) developing distinctive transit services that are unique to Berkeley--as cable cars are unique to San Francisco; (d) developing a wide variety of coordinating services, including moving sidewalks, jitneys, car-pools, etc., as well as mini-busses.

This program will require a joint effort by Berkeley, BART, other East Bay communities, A.C. Transit, Greyhound and University bus service to develop a total system that is pleasant, economical and convenient to use; it should proceed without delay.

Freeways

No new freeways are proposed in this plan although an east-west freeway through South Berkeley and a second shoreline freeway are in the State freeway plans. Berkeley, however, is assuming that the Grove-Shafter Freeway and rapid transit will reduce the pressures (especially during the peak hours) sufficiently to make additional east-west facilities such as a freeway connecting Warren Boulevard and the Eastshore Freeway unnecessary and not subject to further consideration. A second shoreline freeway is shown on the Circulation Plan "under consideration." With the Eastshore Freeway at or near capacity, a second shoreline freeway may be needed to serve economic growth which is creating additional truck traffic and jobs along the East Bay and residential growth at the northern and southern ends of the corridor. The plan will be re-evaluated when more definitive information is available from the Bay Area Transportation Study, and with recognition of plans and policies of the Bay Conservation and Development Commission.

Major Streets and Collector Streets

Streets serve a variety of needs: movement of pedestrians, bicycles, motor-scooters, cars and trucks; property access; public open space; parking; and transit. To handle these needs, the plan designates major and collector streets with the remainder being local streets. Major streets will serve regional traffic and the largest local traffic generators--the University, Central Business District, and transit situations. Collector streets will serve lesser traffic generators, supplement and provide access to major streets, and provide access to residential neighborhoods.

- On major streets priority is given to the movement of traffic over needs for parking and turning. Limitations on parking and turning should be used in preference to street widening in facilitating traffic flows on major and collector streets.
- On collector streets, the needs of through traffic, turning and parking are balanced to provide for each. In particular instances and at certain times (such as rush hour), one function may take precedence over others.
- On local streets, ease of access, pedestrian movement, neighborhood amenity, and parking have priority over traffic movement.
- One-way pairs are appropriate only in high intensity areas such as the Central Business District and the high density residential area south of the University of California Campus. They are not appropriate for lower density residential areas where they spread high speed traffic and large volumes of traffic over larger areas.

Rigid design standards are not established in that sensitivity to the most suitable street development in terms of function, abutting land use, topography, and the preservation of existing character and of esthetic features should always be recognized.

The designated Major streets and Collector streets are shown on the Circulation Plan Map and are briefly summarized in the following paragraphs for each of the major areas of the City.

The Northeast area of the City is predominantly low density residential in use with rugged terrain. The streets generally follow this terrain and are often narrow with many curves. The volumes of traffic are not large. A number of collector streets are designated which connect to major streets serving the University, Central Business District, Albany and the Eastshore Freeway.

The Northwest area is more gently sloping and is characterized by: (a) a grid and radial street pattern; (b) the transit station at Delaware Street and Sacramento Street; (c) industrial uses and the freeway along its western edge; and (d) extensive strip commercial along San Pablo and University.

Sixth, Gilman, and the Eastshore Highway are planned to serve the local industrial traffic. Gilman, University and Sacramento will provide major access to the transit station with Hearst-Delaware and Cedar providing secondary access. San Pablo will continue to provide neighborhood shopping and auto-oriented shopping, but will be improved in capacity and appearance to define more clearly its role as the major north-south route through the Berkeley portion of the East Bay Corridor. Hopkins and Monterey serve the moderate amounts of traffic to and from the north hills.

The Southwest area is similar to the northwest portion of the City and is served by the same major north-south routes (San Pablo, Sixth, Frontage, Sacramento, and Grove). Its east-west traffic, however, is greater with the Central Business District, University and South Campus areas directly east. In addition, Ashby Avenue which links the Eastshore Freeway with eastern Contra Costa County passes through this area. To meet the east-west traffic needs, Dwight is planned as a major street east of Sixth Street and Alcatraz as a collector street east of San Pablo.

The Southeast area is characterized by: (a) variations in terrain from sloping to quite rugged with the grid street system yielding to a more curvilinear pattern in the rugged hill areas at the eastern edge of the City; (b) older residential areas and areas of mixed use along the major routes; (c) east-west through traffic along Ashby Avenue and heavy north-south traffic to and from the University and Central Business District, and (d) the transit station at Ashby and Adeline.

These demands produce traffic in this area far out of proportion to its population or commercial activity. To protect its residential character, traffic must be confined to a small number of streets with dead-ending or other means used to prevent through traffic from intruding on the residential streets. College Avenue, Telegraph Avenue and Shattuck Avenue are planned to serve the University and Central Business District. A secondary route is the Derby-Warring connection to the north campus and Radiation Laboratory. In addition to Ashby Avenue which will take on more locally generated traffic to serve the transit station, Claremont and Alcatraz and a small segment of Woolsey will serve to supplement access to the transit station.

The Central Business District is characterized by a concentration of cars and pedestrians in a relatively small area. With the University on the east and Berkeley High School on the west, alternative routes are limited. The

transit station will increase pedestrian activity and increase the use of downtown for retail and office uses.

To handle these multiple demands major routes are planned around the central core. Grove Street, University Avenue and Hearst, Fulton-Oxford, and the Dwight-Haste pair are planned as major streets around the periphery. Shattuck is not planned to serve cross-town traffic but to provide access to and from the Central Business District and Berkeley station; study will be given to eventual limiting this direct route through the Central Business District. To supplement the major routes, the Bancroft-Durant pair, and Hearst are planned as collector streets.

The University Campus and South Campus Area is characterized by: (a) high density residential housing in dormitories, apartments, rooming houses and group living quarters; (b) a large commercial center along Telegraph and Bancroft; (c) large number of pedestrians and automobiles coming to and from the University. This combination creates intense activity in the area. The plan calls for providing major routes along the periphery with Hearst Avenue, College Avenue, the Dwight-Haste pair and Fulton. Secondary routes to serve the interior are the Bancroft-Durant pair and Gayley Road. This will be sufficient if plans are also undertaken to reduce the auto traffic in the area by increased transit use (local and regional) by students, staff and shoppers. Within the area, the high pedestrian volumes make it clear that pedestrians should be given equal status--in some areas preferential status--on the public rights-of-way.

Scenic Routes

The Circulation Plan map indicates those Major and Collector streets which are also designated Scenic Routes. Those routes relate to the Scenic Route Element of the Alameda County Master Plan originally adopted in the spring of 1966; Berkeley was active in the development of this County plan. The County plan defines scenic routes as "those that traverse, or those that provide the most efficient routes to or between areas of major scenic, recreational and cultural attractions." In addition to supplementary street tree planting and landscaping, a special effort is indicated along these routes to (1) conserve, enhance, and protect scenic views observable from the routes, and (2) provide, where possible, multiple recreational uses, roadside rests, and observation points.

Neighborhood Streets and Pedestrianways

Streets other than those shown on the Circulation Plan Map are designated Neighborhood and/or Local streets. The multi-purpose of these streets including: (a) access to abutting property; (b) light and air to abutting property; (c) local parking; (d) pedestrian routes and (e) recreation uses is fully recognized. Use of these streets by other traffic is not compatible with the prime uses and should be discouraged.

Reduction of the unnecessary use of local streets can be accomplished by a number of possible techniques including traffic control signs and devices, street diverters, cul-de-sacs, loop streets, and appropriate landscaping. These elements are developed--where appropriate--as part of the individual Neighborhood Plans for each sub-area of the City of Berkeley.

Within the framework of Neighborhood Planning full advantage is to be taken of available public rights-of-way to add liveability and amenity, including:

- Maintenance of public right-of-way in such a way as to set a high standard for the City and region; cleanliness and safety are basic to their use and amenity.
- Public open spaces are to be incorporated into street plans by the provision of: (a) tot lots and small parks where streets are dead-ended or closed off; (b) small plazas for informal resting and visiting in the areas of large pedestrian traffic, such as South Campus and the Central Business District; (c) linear parks integrated with sidewalks.
- Landscaping, paving, sidewalks and street furniture are to be developed in a manner appropriate to the street's automobile and pedestrian use, topography and neighboring land uses.
- Viewpoints and small parks are to be established along major and collector streets to preserve unique locations for public enjoyment.

Appropriate planning for pedestrian movement is essential to the attractiveness and liveability of residential neighborhoods and to the access of commercial centers. Pedestrian ways are an integral part of the local circulation system. The safety, amenity and convenience of pedestrians merit equal concern with those of transit riders and motorists. Improvements and incentives developed for pedestrian movement will also help to reduce use of the private automobile. Planning for pedestrian movement and access will include:

- Provision for safe, frequent and convenient access across all major streets.
- Encouragement of cooperative development by merchants of an extensive home parcel delivery system to increase use of transit and pedestrian shopping.
- Design and installation of street furniture to serve pedestrian needs (benches, drinking fountains, etc.) and improve the amenity of sidewalks.
- Development of special programs around elementary schools and parks to insure ease and safety for children using these facilities.
- Establishment of a system of scenic walks to link parks, residential areas and shopping areas, and other functional areas of the City.

Railroads

The Southern Pacific rail line provides passenger service but is used primarily for industrial development of West Berkeley and continues, with the Eastshore Freeway, to sustain its economic health. A second rail line, the Santa Fe running north and south through Berkeley between San Pablo Avenue

and Sacramento Street, is obsolete and should be abandoned.

Heliport

The heliport on the Berkeley waterfront provides regional service to Marin County, Contra Costa County, San Jose, downtown Oakland and downtown San Francisco. Its major function, at present, is to provide direct connections to San Francisco and Oakland International Airports which serve the nation and the world. SFO Helicopter Airlines has already expanded from 10 to 26 passenger vehicles and plans in the future to use 50 passenger helicopters or more. The Circulation Plan Map shows provision for an improved heliport facility.

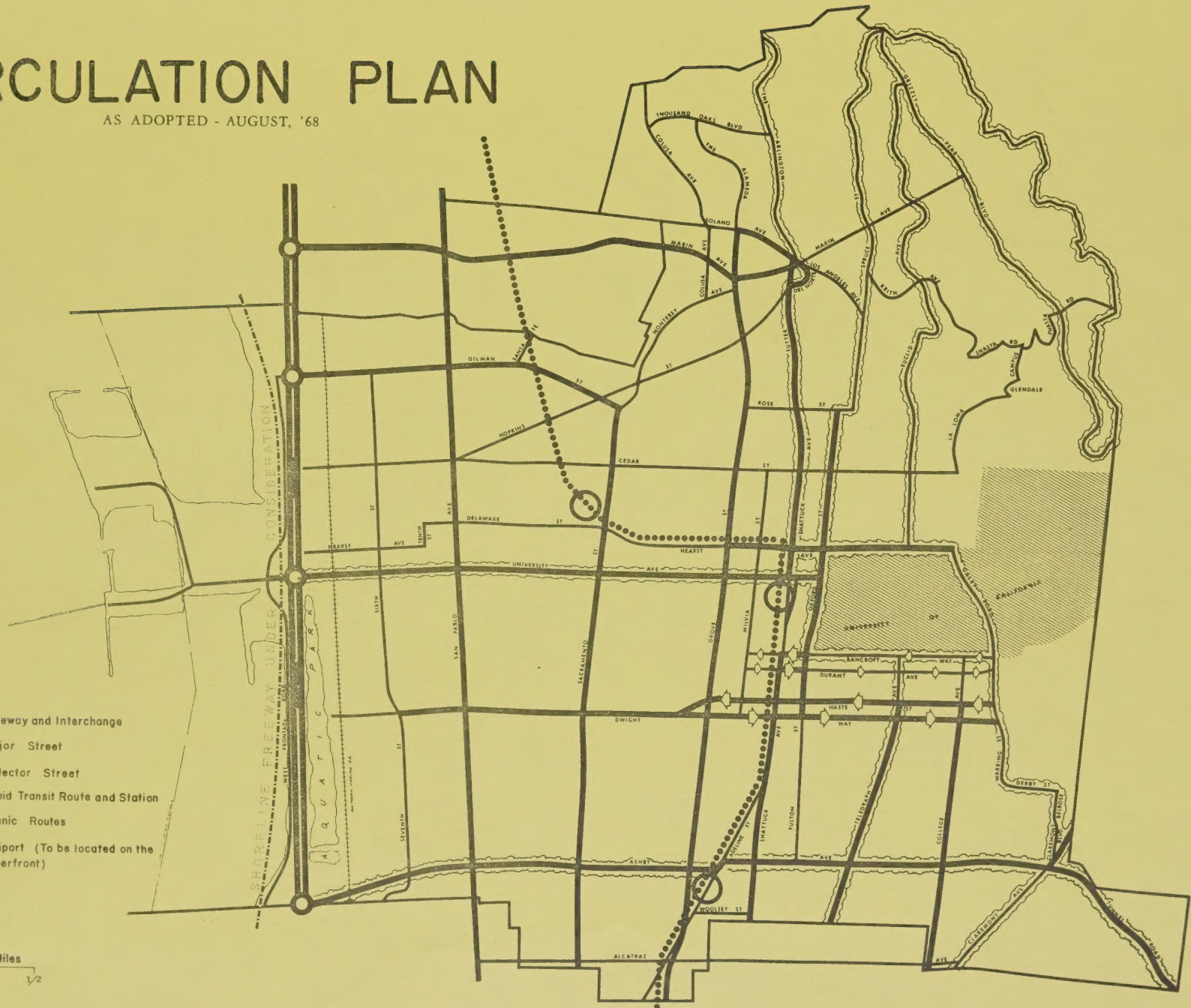
CIRCULATION PLAN

AS ADOPTED - AUGUST, '68

LEGEND:

-  Freeway and Interchange
-  Major Street
-  Collector Street
-  Rapid Transit Route and Station
-  Scenic Routes
-  Heliport (To be located on the waterfront)

Scale in Miles
0 1/2



U.C. BERKELEY LIBRARIES



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